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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/795,771	03/08/2004	Zhiping Shan	1094-27	4090

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EXAMINER	
VANOY, TIMOTHY C	

ART UNIT	PAPER NUMBER
1754	

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/795,771	SHAN ET AL.	
	Examiner	Art Unit	
	Timothy C. Vanoy	1754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

4a) Of the above claim(s) *39-47* is/are withdrawn from consideration.

5)☒ Claim(s) *16,23 and 26-29* is/are allowed.

6)☒ Claim(s) *1-9,11-15,17-22,24,25 and 30-38* is/are rejected.

7)☒ Claim(s) *9,10,25 and 30* is/are objected to.

8)☒ Claim(s) *1-47* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *08/20/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicants' election with traverse of claims 1-38 in the reply filed on Mar. 27, 2006 is acknowledged.

The traversal is on the ground(s) that a search conducted for claim 39 would necessarily include the mesoporous material, as would a search for the claims of group I. Therefore, the commonality of subject matter would require a search encompassing both groups of claims.

This is not found persuasive because the argument ignores that the search for the claims of group II would have to be expanded and broadened to include the search of at least one of the processes of use set forth in at least claim 39. Thus, the search for the extra invention(s) of claim 39 would impose an undue burden on the examiner. Examining the extra invention(s) would also impose the undue burdens of having to formulate extra rejections and/or objections for the claim(s) of the extra invention(s) and to also consider and/or rebut the applicants' arguments directed to the claim(s) of the extra invention(s).

The applicants further argue that all of the subgroups (a) – (t) under group II should be considered under one group. Claim 39 is common to all of the subgroups, and all of the subgroups deal with the use of the catalyst identified in claim 39 for treating organic compounds.

The restriction between the various subgroups of group II is maintained because each of the subgroups deals with a distinct process and each distinct process is capable

of supporting its own patent. It is unduly burdensome on the examiner to extend the field of search for each of the different processes set forth in at least claim 39; unduly burdensome to formulate the extra rejections and/or objections for each of the processes set forth in at least claim 39 and unduly burdensome to also consider and/or rebut the applicants' arguments for each of the processes set forth in at least claim 39.

The requirement is still deemed proper and is therefore made FINAL.

Claims 39-47 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to various nonelected inventions, there being no allowable generic or linking claim. Applicants timely traversed the restriction (election) requirement in the reply filed on Mar. 27, 2006.

Claim Objections

a) Claim 9 is objected to because it requires ageing but also sets forth that the time period for ageing may be 0 hours. Ageing the substance for 0 hours does not appear to require any of the claimed ageing at all.

b) Claim 10 is objected to because it requires heating the dried gel but also sets forth that the time period for heating may be 0 hours. Heating the dried gel for 0 hours does not require the dried gel to be heated at all (which is required by the claim).

c) Claim 25 should be dependent on claim 24 (rather than claim 11) because claim 24 provides the antecedent basis for the step of washing the powder with water to remove salts.

d) In claim 30 line 3, "are" should be inserted after "mesopores".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-9 and 30-38 rejected under 35 U.S.C. 102(b) as being anticipated by WO 00/15551 to Shan et al.

Page 9 et seq. in the Shan et al. application describes a process for making alumina (please see pg. 9 line 17), which is mesoporous (please see pg. 10, last line), comprising:

providing a solution containing an inorganic oxide phase (please see pg. 9 lines 11), which may be aluminum isopropoxide (please see pg. 9 lines 17);

adding a solution of template/hydrogen bonding compound to the solution of aluminum isopropoxide (please see pg. 9 lines 8-11);

adding an alcohol to the resulting mixture of template/hydrogen bonding compound and aluminum isopropoxide (please see pg. 9 lines 14);

ageing the resulting mixture at a temperature ranging from 5 to 45 °C for a period of time of up to 48 hours (please see pg. 9 lines 21-24);

drying the resulting mixture at the temperature of the boiling point of water for a period of time ranging from about 6 to 48 hours (please see pg. 9 lines 25-26 and also pg. 10 lines 4 and 5), and

removing the template the molecules from the inorganic oxide (please see pg. 10 lines 29-32).

The template/hydrogen bonding compound may be a triethanolamine, sulfolane, tetraethylenepentamine, diethylglycoldibenzonate or a glycol (please see claim 2 in this Shan et al. publication).

The mixture may additionally contain ions selected from groups IVA, VB, VIB, VIIB, VIII, IB, IIB and IIIA elements (please see claim 11 in this Shan et al. publication).

The claimed composition is submitted to be anticipated from this Shan et al. publication because the same process for producing a composition is expected to produce the same composition.

Claim 10 has not been rejected under either 35USC102 or 35USC103 because WO 00/15551 to Shan et al. does not teach or suggest the step of heating the dried gel in an autoclave subsequent to drying the mixture.

Claims 11-15, 17-22, 24, 25 and 30-38 are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent 6,027,706 to Pinnavaia et al.

Col. 7 lines 27-59 in U. S. Patent 6,027,706 describes a process for making a mesostructured alumina, comprising:

providing an aqueous solution of a cationic aluminum salt (please see step (a) in col. 7 lines 27-59);

mixing a non-ionic surfactant with a mixture comprising the aluminum (wherein the non-ionic surfactant works as a template for the formation of a mesoporous network in the product: please also see col. 8 lines 53-57 in U. S. Patent 6,027,706)(please see step (d) in col. 7 lines 27-59);

adding a base, such as aqueous ammonia, ammonium carbonate and urea, to the resulting mixture (please see step (e) in col. 7 lines 27-59);

drying the resulting mixture at a temperature of ambient temperature to 150 °C (please see step (g) in col. 7 lines 27-59), and

removing the surfactant contained in the solid product (please see step (h) in col. 7 lines 27-59).

Further, note that col. 14 lines 22-29 in U. S. Patent 6,027,706 sets forth that the calcined framework can be appropriately substituted with functional metallic, non-metallic or metalloid elements, such as Sn, Si, Ga, etc.

The claimed composition is submitted to be anticipated from U. S. Patent 6,027,706 because the same process for producing a composition is expected to produce the same composition.

Claim 16 has not been rejected under either 35USC102 or 35USC103 because neither col. 7 lines 27-59 or col. 8 lines 53-57 in U. S. Patent 6,027,706 teach or suggest the use of tetraethylene glycol, triethanolamine, triisopropanolamine, triethylene glycol, diethylene glycol, sulfolane or diethylglycoldibenzonate as the non-ionic surfactant, as set forth in applicants' claim 16.

Claim 23 has not been rejected under either 35USC102 or 35USC103 because U. S. Patent 6,027,706 does not teach or suggest the step of further heating the dried gel in an autoclave subsequent to drying the mixture.

Claims 26-29 have not been rejected under either 35USC102 or 35USC103 because neither U. S. Patent 6,027,706 or WO 00/15551 teach or suggest the claimed step: "heating the dried gel in an autoclave at a temperature ranging from about 80 °C to about 200 °C for a period of time ranging from about 1 to 120 hours" between the steps of "drying the mixture. . ." and "removing the pore-forming agent", as set forth in applicants' claim 26 and the claims dependent thereon.

The following references are made of record:

U. S. Patent 6,814,950 B1 disclosing inorganic oxides with mesoporosity or combined meso- and microporosity and a process for the preparation thereof, and

U. S. Patent 6,696,258 B1 disclosing the use of pore-forming materials in a process for the production of a mesoporous material (please see claim 1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy C. Vanoy whose telephone number is 571-272-8158. The examiner can normally be reached on Mon-Fri 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Timothy C Vanoy
Patent Examiner
Art Unit 1754

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